

PTO/SB/DBA (07-05)

Approved for use through 07/31/2008. OMB 0651-0091

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

~~Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.~~

Substitute for form 1449/PTO

## INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Use as many sheets as necessary)

Sheet 1

of 2

**Complete if Known**

Application Number	08/486,070
Filing Date	June 7, 1995
First Named Inventor	Jannis Stavrianopoulos
Art Unit	1631
Examiner Name	John S. Brusca
Attorney Docket Number	Enz-7(P)(C3)

## U. S. PATENT DOCUMENTS

[illegible]

**FOREIGN PATENT DOCUMENTS**

FOREIGN PATENT DOCUMENTS					
Examiner Initials*	Cite No.†	Foreign Patent Document  Country Code* Number* Kind Code* (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages Or Relevant Figure Appear
JS	2	EPO 0 070 687	07-14-1982	HELLER ET AL.	

Examiner Signature	<i>J. L. Bruce</i>	Date Considered	10 March 2006
-----------------------	--------------------	--------------------	---------------

\*EXAMINER: Initial reference considered, whether or not citation is in conformance with MPEP 608. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document; for the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

This collection of information is required by 37 CFR 1.97 and 1.88. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

**If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-766-9199) and select option 2.**

PTO/SB/039 (07-05)

Approved for use through 07/31/2008, OMB 0851-0031

U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1448/PTO

**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

**Complete if Known**

Application Number	08/486,070
Filing Date	June 7, 1995
First Named Inventor	Jannis Stavrianopoulos
Art Unit	1631
Examiner Name	John S. Brusca
Attorney Docket Number	Enz-7(P)(C3)

Sheet 2

of 2

**NON PATENT LITERATURE DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JLB	3	HAUGEN ET AL., Monoclonal antibody to aflatoxin B1-modified DNA detected by enzyme immunoassay, PNAS, 78, pp. 4124-4127 (1981)	
JLB	4	VOGELSTEIN, B. AND GILLESPIE, D., Preparative and Analytical Purification of DNA From Agarose, Proc. Natl. Acad. Sci. USA Vol. 76, No. 2, pp. 615-619, February 1979	
JLB	5	MUNNS AND LISZEWSKI, "Antibodies specific for Modified Nucleosides et al.," Progr. Nucl. Acid Res. & Molec. Bio., Academic Press, Inc., Vol. 24, pp. 109-165 (1980)	
JLB	6	NAGATA ET AL., "Quantification of picogram levels of specific DNA immobilized in microtiter wells," FEBS, 183, pp. 379-382 (April 1985)	
JLB	7	SEDLACEK, H. et al., A New Method for Fluorescence Immunoassay Using Plane Surface Solid Phases (FIAPS), J. Immun. Methods, 26, (1979) 11-24	
JLB	8	VAN DER LAKEN ET AL., "Measurement of O6-ethyldeoxyguanosine and N-(deoxyguanosin-8-yl)-N-acetyl-2-aminofluorene in DNA et al.," Carcinogenesis, 3, 569-572 (1982)	

Examiner Signature	<i>John S. Brusca</i>	Date Considered	10 March 2006
--------------------	-----------------------	-----------------	---------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 (1-800-766-9199) and select option 2.



PTO/SB/083 (07-05)  
Approved for use through 07/31/2008, OMB 0651-0031  
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>		<b>Complete if Known</b>	
		Application Number	08/486,070
		Filing Date	June 7, 1995
		First Named Inventor	Jannis Stavrianopoulos
		Art Unit	1631
		Examiner Name	John S. Brusca
Sheet 2	of 2	Attorney Docket Number	Enz-7(P)(C3)

NON PATENT LITERATURE DOCUMENTS			
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T <sup>2</sup>
JBS	5	JOSEPH GALL AND MARY LOU PERDUE, FORMATION AND DETECTION OF RNA-DNA HYBRID MOLECULES IN CYTOLOGICAL PREPARATIONS, GENETICS, 63: 378-383, MAR. 1969	
JBS	6	BUONGIORNO-NARDELLI, M. AND AMALDI, F., AUTORADIOGRAPHIC DETECTION OF MOLECULAR HYBRIDS BETWEEN rRNA AND DNA IN TISSUE SECTIONS, NATURE, VOL. 225, MARCH 7, 1970	
JBS	8	UEDA R. ET AL., SEROLOGICAL ANALYSIS OF CELL SURFACE ANTIGENS OF NULL CELL ACUTE LYMPHOCYTIC LEUKEMIA BY ET AL., PROC. NATL. ACAD. SCI. USA, VOL. 79, PP 4386-4390, JULY 1982	
JBS	9	METHOD IN NUCLEIC ACID RESEARCH, "DNA-DNA HYBRIDIZATION", KYORITSU SHUPPAN CO., LTD., 1973, PPS. 60-67 AND 242	
JBS	10	ENGLISH TRANSLATION FOR METHOD IN NUCLEIC ACID RESEARCH, "DNA-DNA HYBRIDIZATION", KYORITSU SHUPPAN CO., LTD., 1973, PPS. 60-67 AND 242	
JBS	11	DICTIONARY OF BIOCHEMISTRY, TOKYO KAGAKU DOUJIN, 1984, PP. 727, 507, 450 AND ONE OTHER PAGE	
JBS	12	ENGLISH TRANSLATION FOR DICTIONARY OF BIOCHEMISTRY, TOKYO KAGAKU DOUJIN, 1984, PP. 727, 507, 450 AND ONE OTHER PAGE	

Examiner Signature	<i>J.S. Brusca</i>	Date Considered	10 March 2006
--------------------	--------------------	-----------------	---------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

1 Applicant's unique citation designation number (optional). 2 Applicant is to place a check mark here if English language Translation is attached.

This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-0199 (1-800-786-9199) and select option 2.

Form PTO-1449 U.S. Department of Commerce  (REV. 8-83) Patent and Trademark Office  INFORMATION DISCLOSURE CITATION (use several sheets if necessary)  <b>EXAMINER'S COPY</b> <i>Received 31 January 2006</i>	Atty. Docket No. ENZ-7(P)(C3)	Serial No. 08/486,070
	Applicants: Jannis Stavrianopoulos et al.	
	Filed: June 7, 1995	Group: 1631

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPRO- PRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANS- LATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>JB</i>	Mage M.G. et al, <u>Journal of Immunological Methods</u> 15:47-56 (1977)
<i>JB</i>	Wysocki L.J. and Sato, V.L., <u>Proc.Natl.Acad.Sci (USA)</u> 75(6):2844-2848 (June 1978)
<i>JB</i>	Landreth K.S. et al., <u>roc.Natl.Acad.Sci (USA)</u> 79:2370-2374 (1982)
<i>JB</i>	Bunemann H. et al., <u>Nucleic Acids Research</u> 10(22):7163-7180 (1982)
<i>JB</i>	Bunemann H., <u>Nucleic Acids Research</u> 10(22):7181-7196 (1982)
EXAMINER	DATE CONSIDERED
<i>J.L. Bunker</i>	<i>10 March 2006</i>
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Form PTO-1449 U.S. Department of Commerce (REV. 8-83) Patent and Trademark Office  INFORMATION DISCLOSURE CITATION (use several sheets if necessary)	Atty. Docket No. ENZ-7(P)(C3)	Serial No. 08/486,070
	Applicants: Jannis Stavrianopoulos et al.	
	Filed: June 7, 1995	Group: 1631

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPRO- PRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRAN- SLATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

<i>JB</i>	Beltz G.A. et al., <u>Methods in Enzymology</u> 100:266-285 (1983)
<i>JB</i>	Kafatos F.C et al., <u>Nucleic Acids Research</u> 7(6):1541-1552 (1979)
<i>JB</i>	Masiakowski P. et al., <u>Nucleic Acids Research</u> 10(24):7895-7903 (1982)
<i>JB</i>	Sim G.K. et al., <u>Cell</u> 18:1303-1316 (1979)
<i>JB</i>	Frank R. et al., <u>Nucleic Acids Research</u> 11(13):4365-4377 (1983)
<i>JB</i>	Calva E. et al., <u>The Journal of Biological Chemistry</u> 255(22):11011-11016 (1980)
EXAMINER <i>JB - Bruner</i>	DATE CONSIDERED <i>10 March 2006</i>

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Form PTO-1449 U.S. Department of Commerce  (REV. 8-83) Patent and Trademark Office  INFORMATION DISCLOSURE CITATION (use several sheets if necessary)	Atty. Docket No. ENZ-7 (P)(C3)	Serial No. 08/486,870
	Applicants: Jannis Stavrianopoulos et al.	
	Filed: June 7, 1995	Group: 1631

## U.S. PATENT DOCUMENTS


EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPRO- PRIATE

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRAN- SLATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

186	Wengler G. et al., <u>Virology</u> 78:124-134 (1977)
183	Coffin J.M. et al., <u>Cell</u> 13:761-773 (1978)
183	Manning J.E. et al., <u>Chromosoma (Berl.)</u> 53:107-117 (1975)
183	Manning J. et al., <u>Biochemistry</u> 16(7):1364-1370 (1977)
EXAMINER	DATE CONSIDERED
<i>J.B. Bruner</i>	<i>10 March 2006</i>
*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

Form PTO-1449 U.S. Department of Commerce (REV. 8-83) Patent and Trademark Office  INFORMATION DISCLOSURE CITATION (use several sheets if necessary)	Atty. Docket No. ENZ-7(P)(C3)	Serial No. 08/486,070
 <b>EXAMINER'S COPY</b>	Applicants: Jannis Stavrianopoulos et al.	
	Filed: June 7, 1995	Group: 1631

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPRO- PRIATE
JLB	4 6 5 6 1 2 7	4/7/87	Mundy			
JLB	3 8 4 9 1 3 7	11/19/74	Barzynski			
JLB	4 2 6 9 9 3 3	5/26/81	Pazos			
JLB	4 5 1 6 8 3 3	5/14/85	Fusek			
JLB	4 5 1 7 3 3 8	5/14/85	Urdea			
JLB	4 5 3 7 8 6 1	8/27/85	Elings			

## FOREIGN PATENT DOCUMENTS

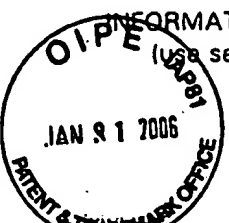
	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRAN- SLATION YES NO
JLB	0 0 4 6 0 8 3		EP			
JLB	0 1 0 3 1 9 7		EP			
JLB	W O 8 4 0 3 5 6 4		PCT			

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JLB	Maxam, A.M. and Gilbert, W., Methods in Enzymology 65:499-560 (1980)
JLB	Sanger, F. et al., Proc. Natl. Acad. Sci (USA) 74(12):5463-5467 (1977)
JLB	Amit B. et al., Journal of Organic Chemistry 39(2):192-196 (1974)
JLB	Amit B. et al., Israel Journal of Chemistry 12(1-2):103-113 (1974)
JLB	Barltrop J.A. et al., Chemical Communications 22:822-823 (1966)
EXAMINER	DATE CONSIDERED
JLB. Bruner	10 March 2006

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.



Form PTO-1449 U.S. Department of Commerce (REV. 8-83) Patent and Trademark Office	Atty. Docket No. ENZ-7(P)(C3)	Serial No. 08/486,070
 INFORMATION DISCLOSURE CITATION (use several sheets if necessary)	Applicants: Jannis Stavrianopoulos et al.	
	Filed: June 7, 1995	Group: 1631

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS	FILING DATE IF APPRO- PRIATE
JLB	4 5 6 2 1 5 7	12/31/85	Lowe			
JLB	4 7 1 3 3 2 6	12/15/87	Dattagupta			
JLB	4 9 7 3 4 9 3	11/27/90	Guire			
JLB	4 5 4 2 1 0 2	9/17/85	Dattagupta			
JLB	4 6 8 9 4 0 5	8.25.87	Frank			

## FOREIGN PATENT DOCUMENTS

DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB CLASS	TRANS- LATION YES NO

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

JLB	Flanders D.C. and Smith, H.I., <u>Applied Physics Letters</u> 31(7):426-428 (1977)
JLB	Krile T.F. et al., <u>Applied Optics</u> 18(1):52-56 (1979)
JLB	Ohtsuka E. et al., <u>Nucleic Acids Research</u> 1(10):1351-1357 (1974)
JLB	Patchornik A. and Amit B., <u>Journal of the American Chemical Society</u> 92:6333-6335 (1970)
	<del>Pillai V.N.R. et al., <u>Tetrahedron Letters</u> 36:3409-3412 (1979) <i>no translation or statement of relevance</i></del>
JLB	Pillai V.N.R., <u>Synthesis</u> (International Journal of Methods in Synthetic Organic Chemistry Chemistry), Schill, G. et al., eds., Georg Thieme Verlag publishers, Stuttgart and New York, pages 1-26, published 1980
JLB	Zehavi U. et al., <u>Journal of Organic Chemistry</u> 37(14):2281-2285 (1972)
JLB	Seed B., <u>Nucleic Acids Research</u> 10(5):1799-1810 (1982)

EXAMINER

DATE CONSIDERED

\*EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Please type a plus sign (+) inside this box



PTO/SB/D&amp;A (08-00)

Approved for use through 10/31/2002, OMB 0651-0031  
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1448A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(use as many sheets as necessary)</i>				<b>Complete If Known</b>	
				Application Number	08/486,070
				Filing Date	June 7, 1995
				First Named Inventor	STAVRIANOPOULOS et al.
				Group Art Unit	1631
				Examiner Name	John Brusca
				Attorney Docket Number	Enz-7(P)(C3)
Sheet	1	of	1		

[illegible][illegible]

Examiner Signature	<i>D. S. Bunn</i>	Date Considered	10 March 2006
--------------------	-------------------	-----------------	---------------

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 809. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See attached Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 18 if possible. <sup>6</sup> Applicant is to place a check mark here if English language translation is attached.

**Burden Hour Statement** This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. **DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.**